UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,076	04/28/2005	Masahiko Nanri	L9289.05131	2401

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EXAMINER
NILANONT, YOUPAPORN

ART UNIT	PAPER NUMBER
2446	

MAIL DATE	DELIVERY MODE
11/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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<tr><td rowspan="3">Office Action Summary</td><td>Application No.
10/533,076</td><td>Applicant(s)
NANRI, MASAHIKO</td></tr>
<tr><td>Examiner
YOUPAPORN NILANONT</td><td>Art Unit
2446</td></tr>
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>5-8</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>5-8</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>8/29/2008</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Claims 5-8 are pending in this Office Action.

Claims 1-4 are cancelled.

Claims 5-8 are new.

The objections to the drawings, specification, and claims 1 and 4 are withdrawn in light

of applicant's arguments and amendment to the specification and cancellation of the

claims.

The rejections to claims 1-4 based on 35 U.S.C. 112 and 35 U.S.C. 101 are withdrawn

in light of applicant's cancellation of the claims

Response to Arguments

1.   Applicant's arguments filed in the amendment filed 9/23/2008 have been

considered but are moot in view of the new ground(s) of rejections. The reasons are set

forth below.

Applicant's invention as claimed:

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hadi

Salim et al. (U.S. Patent 6,625,118) in view of Tam (U.S. Paten 6,622,172) and Fu et al.

("Performance Degradation of TCP Vegas in Asymmetric Networks And Its Remedies").

4.   Regarding claim 5, the Hadi Salim reference discloses a communication system

(see figure 1 and column 5 lines 26-28) comprising:

            a transmission apparatus that transmits packets (see Hadi Salim, "packet

sending means" column 3 lines 62-64) according to a transmission window size

determined in response to new window-size information specifying an increase or

decrease in the transmission window size (see Hadi Salim, "the stored offered

window is used for the new window" column 10 lines 31-32, it is understood that

"the new window" is either larger or smaller than the current one);

            a reception apparatus that generates the new window-size information

(see Hadi Salim, "the window size or other control parameter is calculated in the

receiver" column 9 lines 65-67), and communicates the generated new window-

size information to the transmission apparatus (see Hadi Salim, "new window

size is then output as an offered window size...sent to the TCP source" column 9

lines 62-64);

            and an internet protocol network that connects the transmission apparatus

and the reception apparatus (see Hadi Salim, "across the Internet Protocol

network" column 3 lines 62-67).

            However, the Hadi Salim reference does not explicitly teach that its new window

size is generated based on a packet arrival time, which is a time subtracting a time at

which a head packet of the packets is received from a time at which all the packets of the transmission window size are received.

Conversely, the Fu reference discloses a method of calculating the new window size based on the actual flow rate which is the flow rate on the forward path computed from the timestamps (see Fu, right column on page 3235 3rd – 4th paragraphs, it is understood that the actual flow rate on the forward path is calculated by dividing the number of received packets by the time it took for packets to arrive hence based on the data packets arrival time). The Fu reference suggests that round trip time does not accurately represent the congestion on the data path and thus causes the window size to be changed unnecessarily (see Fu, left column on page 3235, "falsely regards...as a signal for the onset of congestion and adapts its window over conservatively").

It would have been obvious to the person having ordinary skill in the art, at the time the invention was made, to have substitute the Hadi Salim's congestion control algorithm with the Fu's teaching in order to accurately detect the congestion of data on forward path and utilize the forward path to the fullest by not over conservatively adjust the window size (see Fu, left column on page 3235).

5.   Regarding claim 6, the Hadi Salim reference teaches a communication method comprising the steps of:

receiving packets according to a transmission window size determined in response to new window-size information specifying an increase or decrease in the transmission window size (see Hadi Salim, "receiving a packet" column 2 line 50, it is understood that the receiver apparatus receives packets according to a

transmission window size since the source node apparatus has a flow control

that controls sending rate according to control parameter which may be a window

size, column 4 lines 1-4);

generating the new window-size information (see Hadi Salim, "the window

size or other control parameter is calculated in the receiver" column 9 lines 65-

67);

and communicating the generated new window-size information to a

transmission apparatus (see Hadi Salim, "new window size is then output as an

offered window size...sent to the TCP source" column 9 lines 65-64).

The Hadi Salim reference does not explicitly teaches that the new window-size

information is generated based on a packet arrival time, which is a time subtracting a

time at which a head packet of the packets is received from a time at which all the

packets of the transmission window size are received;

However, the Fu reference teaches a new window-size calculation method based

on the "actual flow rate which is the flow rate on the forward path computed from the

timestamps (see Fu, right column on page 3235 beginning on paragraphs 3-4, it is

understood that the actual flow rate on the forward path is calculated by dividing the

number of received packets by the time it took for packets to arrive hence based on

data packets arrival time). The Fu reference suggests that round trip time does no

accurately represent the congestion on the data path and thus causes the window size

to be changed unnecessarily (see Fu, left column on page 3235, "falsely regards...as a

signal for the onset of congestion and adapts its window over conservatively").

It would have been obvious to the person having ordinary skill in the art, at the time the invention was made, to have substitute the Hadi Salim's congestion control algorithm with the Fu's teaching in order to accurately detect the congestion of data on forward path and utilize the forward path to the fullest by not over conservatively adjust the window size (see Fu, left column on page 3235).

6.   Regarding claim 7, the Hadi Salim and the Fu references teach the communication method according to claim 6. Additionally, the Fu reference teaches the method further comprising:

generating the new window-size information specifying a decrease in the transmission window size if the packet arrival time is equal to or greater than a predetermined threshold value (see Fu, algorithm on right column on page 3230, "if (DIFF * BaseRTT > β)" and right column on page 3235 "where DIFFf = Expected – Actualf. By usinging DIFFf instead of DIFF" given that Actualf is derived from forward path/data path);

and generating the new window-size information specifying an increase in the transmission window size if the packet arrival time is less than the predetermined threshold value (see Fu, "if (DIFF * BaseRTT < α)", given that α is less than β, thus '< α' is naturally '< β', right column on page 3235 "where DIFFf = Expected – Actualf. By usinging DIFFf instead of DIFF", given that Actualf is derived from forward path/data path).

7.   Regarding claim 8, the Hadi Salim and the Fu references teach the

communication method according to claim 6. Additionally, the Fu reference teaches the

method further comprising:

        generating the new window-size information specifying a decrease in the

transmission window size if the packet arrival time is equal to or greater than a

first threshold value (see Fu, algorithm on right column on page 3230, "if

$(DIFF*BaseRTT > \beta)$" and right column on page 3235 "where $DIFFf = Expected -$

Actualf. By usinging DIFFf instead of DIFF" given that Actualf is derived from

forward path/data path);

        generating the new window-size information specifying a hold in the

transmission window size if the packet arrival time is less than the first threshold

value and equal to or greater than a second threshold value (see Fu, "else") ; and

        generating the new window-size information specifying an increase in the

transmission window size if the packet arrival time is less than the second

threshold value (see Fu, "if $(DIFF * BaseRTT < \alpha)$" and right column on page

3235 "where $DIFFf = Expected - Actualf$. By usinging DIFFf instead of DIFF"

given that Actualf is derived from forward path/data path).

Conclusion

8.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to YOUPAPORN NILANONT whose telephone number is

(571) 270-5655. The examiner can normally be reached on Monday through Thursday

and alternate Friday at 7:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jeffrey C. Pwu can be reached on (571) 272-6798. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. N./
Youpaporn Nilanont
11/19/2008
Examiner, Art Unit 2446

/Jeffrey Pwu/
Supervisory Patent Examiner, Art Unit 2446